

COMPLETE LISTING OF THE CLAIMS

1. (Currently amended) An evaporation system in a processing plant processing a product and supplying process waste steam, the system comprising:

 an evaporator for concentrating the product at a given dew point temperature, the evaporator having an exit for product vapor and being configured to be heated by process waste steam supplied by the processing plant;

 and a process stage adapted to be heated to a defined temperature by product vapors of the evaporator; and, wherein

 a vapor compression stage is connected to the product vapor exit of the evaporator and to the process stage, the vapor compression stage being adapted to lower, which compression stage lowers the given dew point temperature of the evaporator below the defined temperature value required for heating the process stage and, by compression of the product vapor, raises to raise the temperature of the product vapor to the defined temperature value required for heating the process stage by compressing the product vapor.
2. (Currently amended) The evaporation system as claimed in claim 1, wherein the process waste steam is saturated process waste steam.
3. (Previously presented) The evaporation system as claimed in claim 2, wherein the saturated process steam is generated without condensation from superheated process waste steam by supplying water or condensate.

4. (Previously presented) The evaporation system as claimed in claim 3, wherein for the condensation-free conversion of the superheated process waste steam into saturated and purified process steam, a wet washer which purifies the superheated process waste steam is provided.

5. (Currently amended) The evaporation system as claimed in claim 4, wherein a delivery pump, ~~in particular in the form of a fan,~~ is arranged at a point in the process steam route from ~~the~~ a drier, via the wet washer, the heating space of the evaporator, a waste steam line and a waste steam chimney.

6. (Previously presented) The evaporation system as claimed in claim 4, wherein condensate from at least one of the evaporators can be fed to the wet washer for the saturation and purification of the superheated process waste steam.

7. (Currently amended) The evaporation system as claimed in claim 1, wherein the vapor compression stage is in the form of a mechanical vapor compression stage.

8. (New) The evaporation system as claimed in claim 1, wherein the processing stage includes at least one additional evaporator.

9. (New) The evaporation system as claimed in claim 2, wherein the process waste steam is superheated process waste steam and wherein the system further comprises saturated process steam generating means adapted to generate saturated process waste steam from superheated process waste steam without condensation by adding water or condensate thereto.
10. (New) The evaporation system as claimed in claim 9, wherein the saturated process steam generating means comprises a wet washer purifying the superheated process waste steam and converting the superheated process waste steam in a condensation-free manner into purified saturated process waste steam to be supplied to the evaporator.
11. (New) The evaporation system as claimed in claim 10, wherein the system forms a process waste steam route from a drier through the wet washer, a heating space of the evaporator and a waste steam outlet line of the evaporator to a waste steam chimney and wherein a delivery pump is arranged in the process waste steam route.
12. (New) The evaporation system as claimed in claim 11, wherein the delivery pump is a fan.
13. (New) The evaporation system as claimed in claim 10, wherein the system includes at least one evaporator in fluid communication with the wet washer for feeding condensate of the at least one evaporator to the wet washer for the saturation and purification of the superheated process waste steam.